# TV COLOR TELEVISION

# GRUNDIG

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# Positioning

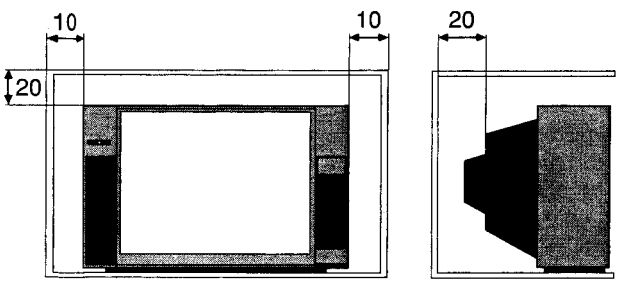
- Position your TV receiver so that as little stray light as possible falls on the screen from the front in order to avoid incorrect colours and light reflections.
- The TV receiver must must not be exposed to **moisture**.
- A build-up of heat reduces the life of the set and presents a source of danger.

For this reason:

- Do not cover the **ventilation slots** in the back panel.
- If the receiver is placed in a closed cabinet, minimum distances (given in cm) must always be maintained to guarantee adequate air circulation (see illustrations).
- Do not position the receiver in the immediate neighbourhood of radiators.

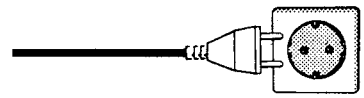
## Care of the Cabinet

The cabinet should only be cleaned with a soft cloth which picks up dust. Do not use aggressive polishing agents. Stubborn marks on the screen should be removed with a commercially available window cleaning agent.



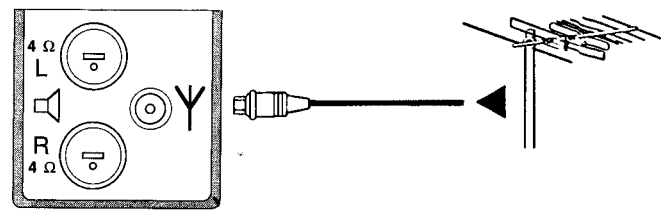

# Connection

## Mains Connection 220V/50Hz



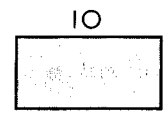
## Aerial Connection

Back panel

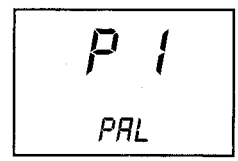



# Switching On

with the mains switch




– Station position 1 is automatically selected and the display shows **P1** and the selected TV standard (eg: PAL).



# The Remote Control Handset

- Insert the provided battery (9V block battery). The correct polarity is marked on the bottom of the battery compartment.
  Close the cover.
- Should your TV receiver no longer respond to the signals from the remote control handset, the battery is probably exhausted. No responsibility is taken for damage caused by a leaking battery.

⚠ **Protect the environment.**
**Exhausted batteries must be handed over to a special refuse collecting plant.**

# Tuning to TV Stations

So that you can receive television broadcasts, your TV receiver must be tuned to the local TV stations or the special channels of the regional cable TV systems.

**There are 3 possibilities to tune to a TV station:**

1. **Entering channel numbers directly**
   with the remote control.
2. **Using the station search system**
   and the remote control.
3. **With the controls of the TV set**
   (see page "Settings on the TV Receiver").

Information about the channel numbers and special channel numbers can be obtained from your dealer, after-sales service or post office.

- Switch on TV receiver with the mains button **I O**.
- Station position 1 will automatically be selected and the display shows **P 1** and the selected TV standard, eg: PAL.

First possibility

## Tuning by entering the channel number

### 1. Selecting the desired station position

- Select the desired station position step by step with button ▼ or ▲.
- Press button **P/C** once.
- The display will show **C** (**C** for channel) and a channel number between **00** and **99**.
- If you are able to receive cable TV stations, press button **P/C** once again.
- The display shows **S --** (**S** = special channel).

### 2. Entering the channel number

- Enter the desired channel number as 2 figures with the numbered buttons **1** ... **0**, eg: **0** and **6** for channel 6.
- The receiver will automatically tune to best picture sharpness.

### 3. Storing the channel number

- Press button ◇.
- The channel number flashes in the display.
- During flashing of the channel number press button **OK**.
- The display shows **P** (**P** = programme (station) position).

Second possibility

## Tuning with the automatic station search system and the remote control

### 1. Selecting the station positions

- Select the desired station position step by step with button ▼ or ▲.
- Press button **P/C** once.
- The display will show **C** (**C** for channel) and a channel number between **1** and **99**.
- Start the station search with button ▼ or ▲.
- The station search will now start to scan all of the TV channels (also all the special channels) and will stop when a station is found.
  If this station is not the one required, repeatedly start the station search until the desired station is found.
- The picture is automatically tuned to best sharpness.

### 2. Storing the channel number

- Press button ◇.
- The channel number is flashing in the display.
- During flashing of the channel number press button **OK**.
- The display shows **P** (**P** = programme (station) position).

# TV Operation

## Switching on

- Switch on the TV receiver with the mains button **IO**.
- Station position 1 is automatically selected and **P 1** appears in the display, as well as the TV standard (SECAM or PAL).

The buttons required for the operation of the TV set are marked in black in the illustrations.

## Station selection

- Select the station positions **1** to **9** with the numbered buttons **1**...**9**.
- For the two-position station positions **10** to **49** enter the tens position, this will flash for about 3 seconds. Enter the units position during this period of time.
- Select the station positions step by step from **P1** to **P49** with button ▼ or ▲.

If you only use the station positions **1** to **9**, you can change the selection mode. To do this, proceed as follows:

- Switch off the TV receiver with the mains button **IO**.
- Open the control panel on the TV set.
- Press on the flap at the bottom of the TV set.
- Press and hold button **M** on the TV receiver and simultaneously press the mains button **IO**.

– You now can **only** select the station positions **1** to **9**.
– If you wish to select all **49** station positions again, repeat the procedure.

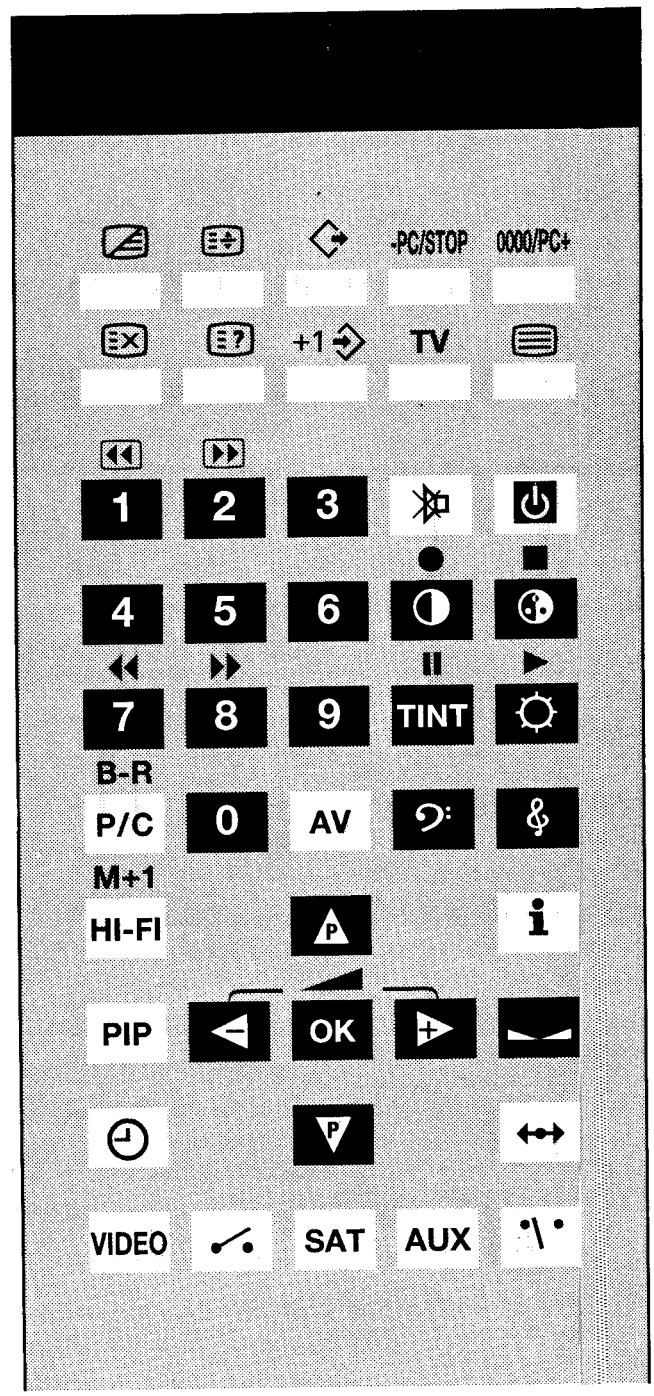
## Picture and sound corrections

- Change the volume by pressing button ◀ (softer) or button ▶ (louder) as long as required.
- For all other picture and sound corrections, **first** select the function you wish to alter:

= Colour contrast
= Brightness
= Black and white contrast
= Stereo balance
= Bass
= Trebles

- Adjust the desired value by pressing button ◀ or ▶ as long as required.
- To recover the **optimum** settings, use button **OK**.

– For changing the optimum settings, see "Changing the optimum settings".



# TV Operation

## Stereo broadcasts

If a broadcast is in stereo, your TV set will automatically switch to stereo sound.
- The display shows **STEREO**.
- When the stereo signal is too weak (noisy sound), you can switch to mono reception with button "\".

## 2-channel sound broadcasts

In the case of 2-channel-sound broadcasts, you can choose between the original foreign-language sound track or the track dubbed in the local language.

For further information see table on page 19.

## Stereo base, spatial sound

Expands the stereo base in the case of stereo broadcasts. Improves the sound impression in the case of mono broadcasts.

- Switch on and off with button ↔.

## Muting the TV sound

- Button 🔇 permits to switch on and off the TV sound.

## Displaying the time

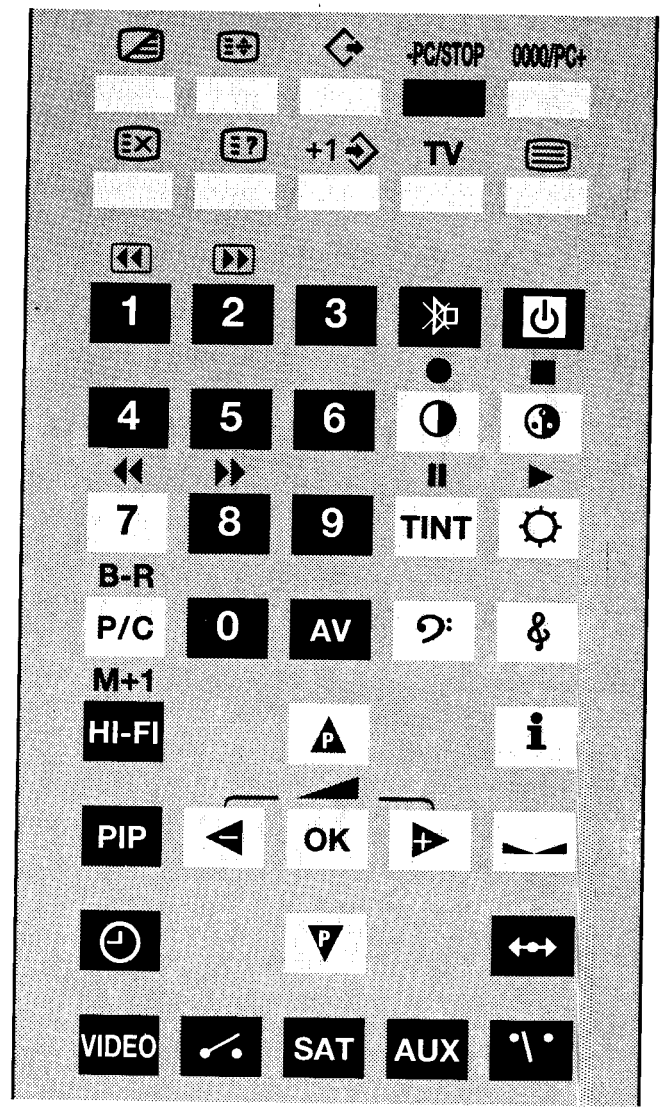
- To switch on and off the clock time, use button 🕒.
  During videotext (teletext) broadcasts.

## Standby

- For pauses during watching TV, you can switch the TV set to standby with button ⏻.
- The display shows a illuminated dot.
- Approx. 10 minutes after the end of the transmission, the TV set automatically switches to standby.
- To switch the set on again from standby, press one of the numbered buttons **1**...**0** or button **HIFI**.

## Switching off

- To switch off the TV set for longer periods, use the mains button **IO**.




⚠ The buttons **AV, SAT, HIFI, VIDEO,** and **AUX** are provided for external units.
How to connect and operate these units is explained, see "Changing the optimum settings".

⚠ The buttons **PIP, TINT** and 🔊 have no function on this set.

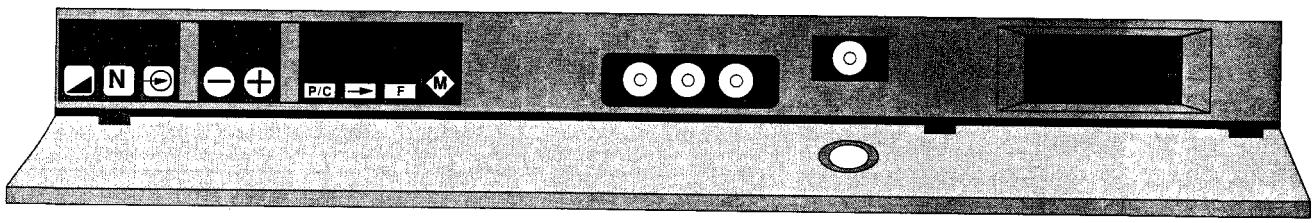
# GRUNDIG NICAM DIGITAL STEREO

NICAM is a new standard for the transmission of sound signals from the transmitter to the receiver (TV set). The transmitted signals are digital signals (contrary to the conventionally analog signals) and are "processed" in the TV set.

This unit can receive, process and reproduce **both** kinds of signals. The button "\" permits to select between the different types of sound signals, provided these are "offered" by the transmitting station.

| **Type of transmitted sound** | **Display** | **Press button "\"** | **Result** | **Explanations** |
|---|---|---|---|---|
| Digital stereo | STEREO | once<br>once again<br>once again | STEREO off,<br>analog sound in mono.<br>STEREO on again. | Recommended when reception of stereo signal is weak, eg: crackling sound. |
| Analog stereo | STEREO | once<br>once again | STEREO off, analog sound in mono<br>STEREO on again | Recommended when reception is weak:<br>eg: noisy sound. |
| Two-channel sound, digital | 1 | once<br>once again<br><br>three times | Sound channel 2,<br>analog sound in mono<br><br>Sound channel 1 | Display: 2<br>No display. Recommended when tone quality is poor, i.e: the display goes out an comes on back again.<br>Display: 1 |
| Two-channel sound, analog | 1 | once<br>once again | Sound-channel 2<br>Sound-channel 1 | Display: 2<br>Display: 1 |
| Digital mono | — | once<br>once again | Analog sound in mono<br>Digital sound in mono | Recommended when sound quality is poor. |
| Analog mono | — | no function | | |

# Settings on the TV Set




Open the control panel:
Press on the flap at the bottom of the TV set.

## Selecting a station position

- Select the desired station position with button + or –.
- The display shows: **P1** to **P49** or **C AV** or **1 AV**.

## Volume

- Press button ◢ and adjust the volume with button + or button –.

## Tuning with the automatic station search facility

### 1. Selecting a station position

- Select the desired station position with button + or –.
- Press button **P/C**.
- The letter **C** (**C** for channel) and a channel number between **00** and **99** will appear in the display.

### 2. Starting the automatic station search

- Select the automatic station search mode with button →.
- Start the station search with button + (in upward direction) or with button – (in downward direction).
- The station search will stop at each station that is found. If this station is not the desired one, start the station search again until the desired station is found.
- Your TV set searches the channels **00** to **99**, then the special channels **S 01** to **S 41** (an **S** appears in front of the channel number).

### 3. Storing the channel number

- Press button **M**.
- The display will show the letter **P**.

### 4. Selecting the next station position

- Select the next station position with button + or – and repeat the procedure if required.

## Tuning by entering the channel number

### 1. Selecting a station position

- Select the desired station position with button + or –.
- Press button **P/C**.
- The display will show the letter **C** for channel or an **S** for special channel and a channel number between **00** and **99**.

### 2. Entering the channel number

- Press button + or – until the desired channel number appears in the display.

### 3. Storing the channel number

- Press button **M**.

# Settings on the TV Set

## Fine-tuning the picture

**The TV set will automatically tune to optimum sharpness. In difficult reception conditions it may occasionally be necessary to alter the picture sharpness. Proceed as follows:**

- Press button **P/C** until the display shows **C** or **S**, then press button **F**.
- Correct the picture quality with the button + and –.
- If the picture is to your taste, store the setting by pressing button **M**.

## Changing the optimum settings

The optimum settings made for picture and sound in the factory can be altered.

- For altering the volume, press button ◀ (softer) or ▶ (louder) on the remote control until the volume is to your taste.
- Store the adjusted value with button **M**.

For all other adjustments

- **first** select the desired function with the following buttons on the remote control:

| | | | |
|---|---|---|---|
| ◑ | = Colour contrast | ◣◢ | = Stereo balance |
| ☼ | = Brightness | 𝄢 | = Bass tones |
| ◑ | = Black/white contrast | 𝄞 | = Treble tones |

- Now press button ◀ or ▶ on the remote control or button + or – on the TV receiver until the adjustment is to your taste.
- Store the adjusted value with button **M**.

## Station position selection for external units

(only possible with the buttons on the TV receiver)

Any station position can be adjusted for playback via an external unit (eg: a video recorder with the switching voltage connected to Pin 8 of the EURO-AV socket) being connected to the EURO-AV socket. To do this

- select the desired station position.
- Press button ⊖.

– A dot lights up behind the **P** in the display.

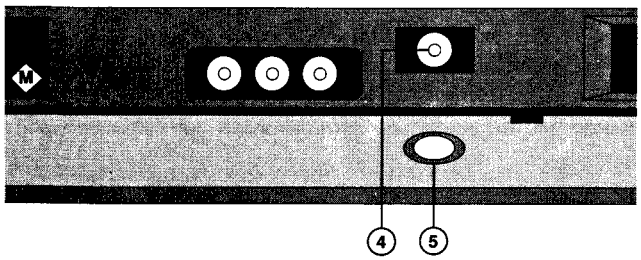
- Store the adjustment with button **M**.

# Connecting Possibilities and Operation

## ... with a stereo headphone

**Connection:**

- Insert the plug of the headphone (6.3 mm jack plug) into socket ④ through hole ⑤.




**Operation:**

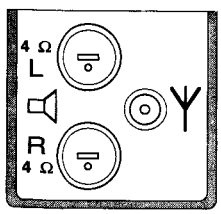
- Press button **AUX**, then adjust the volume with button ◀ or ▶.

## ... with external loudspeakers

**Connection and operation:**

- Connect the external loudspeakers (4 Ω impedance) to the sockets 🔈 at the rear of the TV set (R = right-hand channel, L = left-hand channel).

– The loudspeakers of the TV set are automatically switched off.




## Copying from a camera recorder onto a video recorder via the TV set

**Connection:**

Connect the video recorder to the EURO-AV socket and the camera recorder to the phono sockets at the front.

**Operation:**

Press the **AV** button on the remote control twice (programme indication "C AV").

– For further information, see the operating instructions for the camera recorder.

# Remote control of a video recorder

You can also use the remote control handset for the TV set for cable-free remote control of a **video recorder**. To find out which video recorders are suitable for this purpose, contact your dealer.

- Press and **hold down** button **VIDEO**.

– In doing so, the remote control is switched to video recorder operation.

The following listing shows you the functions that can be remotely controlled.

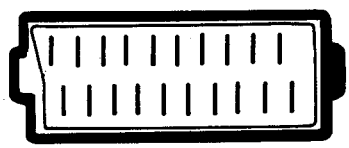
| | | | |
|---|---|---|---|
| ⏪ | (numbered button 1) | = | Picture search, reverse |
| ⏩ | (numbered button 2) | = | Picture search, forward |
| ● | (button ◑) | = | Record start |
| ■ | (button ⏏) | = | Stop |
| ◀◀ | (numbered button 7) | = | Fast rewind |
| ▶▶ | (numbered button 8) | = | Fast forward wind |
| ⏸ | (**TINT** button) | = | Pause |
| **4/5** | (numbered buttons **4/5**) | = | Station position selection |
| **3** | (numbered button **3**) | = | Slow-motion |

# Connecting Possibilities and Operation ...

## ... with video recorders

**Connection:**

- Connect the video recorder with the video cable to the EURO-AV socket (on back of set).



**Operation:**

- Press button **AV**.

– Programme position **1 AV** appears in the display (= video recorder connected to the EURO-AV socket).

- Start playback of the video recorder.

– The playback of the video recording can be seen on the TV screen.

⚠The picture/sound signal of the video recorder connected to the EURO-AV socket can also be switched to any other station position (see chapter "Station Position Selection for External Units", page 19).

⚠If there are picture or sound differences (eg: sound too loud or too much colour contrast) to the TV picture you are accustomed to, these values can be modified and stored.
These adjustments do **not** alter the optimum values of the TV set.

- Use the following buttons to change the desired function:

| | | | |
|---|---|---|---|
| ◑ | = Colour contrast | ▁◢ | = Stereo balance |
| ☼ | = Brightness | 𝄢 | = Bass tones |
| ◑ | = Black/white contrast | 𝄞 | = Treble tones |

- Press button ◀ or ▶ until the selected function is to your satisfaction and store the value with button **M** (on the TV receiver).
- Adjust the volume with button ◀ (softer) or button ▶ (louder) and store the adjusted value with button **M**.

## ... with a Satellite receiver

**Connection:**

- Connect the Satellite receiver via an appropriate cable to the EURO-AV socket.

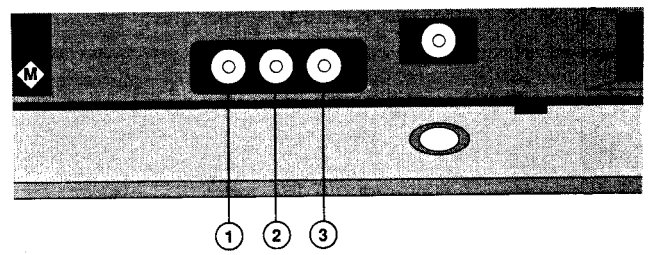
**Operation:**

- Select the AV station position with the **AV** button.
- Press and hold down button **SAT**, and select the desired station position for the Satellite receiver with the numbered buttons **1** ... **0**.

## ... with a camera recorder

**Connection:**

- Connect the camera recorder to the phono sockets (on the lower left at the front) using a cable with phono plugs.




① = Video input
② = Audio input, left-hand channel
③ = Audio input, right-hand channel

⚠When using a monophonic camera recorder, connect the audio cable to socket **AUDIO L**.

**Operation:**

- Repeatedly press button **AV** until **C AV** appears in the display.
- Start playback of the camera recorder.

– The playback is shown on the TV screen.

# Videotext (Teletext) Operation

- Use the numbered buttons **1...0** to select the station position from which you whish to call up the Teletext pages.

## Switching on Teletext

- Press button ▤.

– A Teletext page appears with information at its top, such as

| | | |
|---|---|---|
| **S 100** | = | Page number |
| **ARD** | = | The TV station you are receiving |
| **08. 07. 88** | = | The real date |
| **16:02:19** | = | The real time |

– Page 100 shows the contents of the Teletext service.

## Calling up Teletext pages

- Select the number of the desired page as **three figures** with the numbered buttons **1...0**.

– The number of the selected page appears at the top of the TV screen and the page appears after a short time.

- The next page can be selected with button **+ 1** ⇨ (**current page number + 1 page**).

## Subpages

Some page numbers may contain several subpages which are changed automatically by the broadcasting stations. Subpages are marked by an insert below the clock time indication, eg: 3/6 means that the third of 6 subpages is shown.

If you wish to hold a subpage for a longer period

- press button **–PC/STOP**.

– Above the clock time **Stop** appears.

- To return to the changing cycle of the subpages, press button **–PC/STOP** again.

## Calling up subpages directly

- Press button **0000/PC+**.

– **– 0000** appears in the information line.

- Enter the desired number of the subpage (eg: 3) with the numbered buttons **1...0**.

– The selected subpage appears after a short period of time.

- The next page can be selected with button **+ 1** ⇨.
- To delete this function, press button **0000/PC+** again.

## Enlarging the character size

- Pressing button ⊞ repeatedly:

– doubles the size of the top half of the page;

– doubles the size of the bottom half of the page;

– returns the complete page to normal size.

## Displaying concealed text

The Videotext (Teletext) pages may contain "hidden" information, eg: quiz answers or the VPS times for programming a video recorder.

- Press button ⊡ to make the "hidden" information visible (eg: S 303 – VPS times).
- Press button ⊡ once more and the information is hidden again.

## Updating of information

### 1. Updating a page

The Teletext service updates certain pages, eg:

– pages containing exchange rates,

– pages containing sport reports,

– pages containing the latest news.

If you wish to watch the TV but to be nevertheless informed about the latest news, then

- first select the respective page.
- Press button ⊠.

– You will see the TV picture and Teletext information at the upper edge of the screen.

– As soon as the word **NEUE MELDUNG (UPDATE)** appears in the information line,

- press button ⊠.

– The updated Teletext page appears.

# Videotext (Teletext) Operation

## 2. Bridging waiting periods

Whilst the TV set is searching a Teletext page, you may return to the TV mode. To do this

- press button ⊠.

– You will see the TV picture and Teletext information at the upper picture edge.
– When the desired page is found, the word **ABRUFBEREIT (READY)** will appear.

- Press button ⊠ and the page will appear.

## Terminating Teletext

- Press button **TV**.

## Entering the station abbreviation

At the factory, the station position 1 has been preprogrammed with the programme code ARD and the station position 2 with the programme code ZDF. Four places are available per station position. These can be filled with any letters, figures and blanks.
To do this, proceed as follows:

- Select the required station position on the TV set.
- Open the flap at the front of the TV set.

→ • Press button →.

▬ A black rectangle appears on the screen and a question-mark is positioned above the first place. It marks the position to be changed.
Any characters already stored can be altered.
Repeatedly pressing the button + or – changes the characters in steps, while holding one of the buttons pressed changes them rapidly.
A blank may be found between 9 and A.

+/– • Press button + or – until the required letter (eg: for SAT1 the S) is found.

→ • Pressing button → moves the question-mark to the second position to be changed, and so on.

- After all the characters have been set,

**M** • press button **M** to store the station abbreviation in the memory.
After that the letters and figures change their colour and then disappear briefly.

# Specification

## Mains voltage:

220/240V AC
(Control range of the mains section 170...270V)

## Power consumption:

approx. 110Wh

## Channel coverage:

channels 1 . . . 80
special channels S 1 . . . S 41

## Sound output:

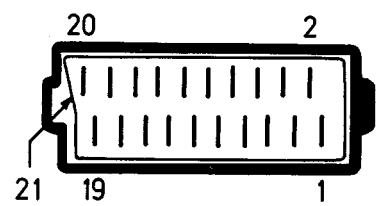
2 × 35W music power

This equipment meets the international safety and interference regulations.
If your unit malfunctions, it is essential that you contact your dealer.
Under no circumstances should you open the set yourself. The manufacturer accepts no responsibility for damage which occurs under such circumstances.

## Pins Connections of the EURO-AV Socket

If you wish to connect peripheral equipment (eg: computer, amplifier system) to your TV set, your dealer will be able to make the correct standard connections using the table below.

| Pin | | Signal |
|---|---|---|
| 1 | = | Audio output, R.H. |
| 2 | = | Audio input, R.H. |
| 3 | = | Audio output, L.H. |
| 4 | = | Audio chassis return |
| 5 | = | Blue chassis return |
| 6 | = | Audio input, L.H. |
| 7 | = | RGB blue input |
| 8 | = | Switching voltage |
| 9 | = | Green chassis return |
| 10 | = | – |
| 11 | = | RGB green input |
| 12 | = | – |
| 13 | = | Red chassis return |
| 14 | = | – |
| 15 | = | RGB red input |
| 16 | = | RGB switching voltage |
| 17 | = | Video chassis return |
| 18 | = | RGB switching voltage chassis return |
| 19 | = | Video output |
| 20 | = | Video input |
| 21 | = | Screening/chassis return |




Subject to alteration
E. and O.E.

# Placering

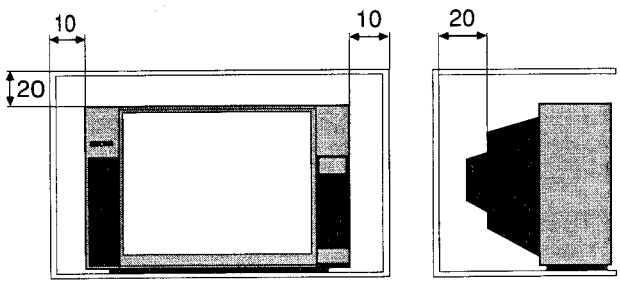
- Placera Din TV så, att minsta möjliga dagsljus faller på bildrutan för att undvika färgförfalskningar och ljusreflexer.
- Skydda TV-mottagaren mot **fukt**!
- Värmebildning minskar apparatens livslängd och kan i extrema fall leda till att apparaten råkar i brand.

Därför:

- Täck inte över **luftningsslitsarna** på apparatens baksida.
- Vid placering i en sluten bokhylla måste det absolut finnas ett minsta avstånd (se nedanstående bilder, cm).
- Placera aldrig apparaten i närheten av värmelement.

## Vård av apparaten

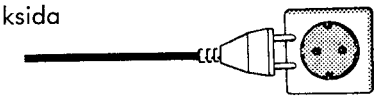
Rengör höljet endast med en mjuk, dammbindande lapp. Använd inte några polermedel. Svårsittande avlagringar på bildrutan tar Du bort med ett vanligt fönsterputsmedel.




# Anslutningar

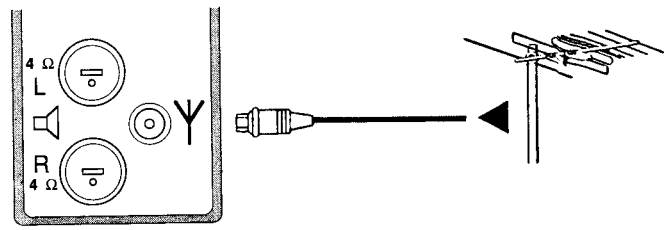
## Nätanslutning 220V/50Hz

Apparatens baksida



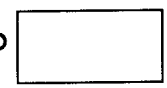
## Antennanslutning

Apparatens baksida

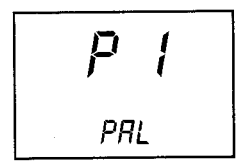



# Inkoppling

med nätströmbytare **IO**



– Programläge 1 väljs automatiskt, i display syns **P1** och inställd TV-norm (t. ex. PAL).



# Fjärrkontrollen

- Sätt i det bipackade batteriet.
  Beakta markeringen i fackets botten.
  Stäng locket.
- Skulle Din TV inte mer reagera på fjärrkontrollkommandon, kan batteriet vara förbrukat.
  Tag omedelbart ur förbrukat batteri.
  För skador, som uppstått genom ett läckande batteri, lämnas ingen garanti.

⚠ **Skydda miljön!**
**Förbrukade batterier skall lämnas i därför avsedda uppsamlingsställen.**

# Ställa in TV-program

För att kunna ta emot TV-program måste Din TV vara inställd på de lokala TV-stationernas kanaler resp. specialkanaler för ev. kabel-TV-anläggning.

**Det finns tre möjligheter:**

1. **Direktinmatning av kanalsiffror**
2. **Med kanalsökningen och fjärrkontrollen.**
3. **På TV-mottagarens manöverpanel** (se sidan 32 "Manövering på apparaten").

Informera Dig om kanal-/specialkanaltalen hos Din TV-handlare.

- Koppla till TV-mottagaren med nätströmbrytare **I O**.
- Programläge 1 väljs automatiskt, i display syns **P 1** och inställd TV-norm (t. ex. PAL).

Möjlighet 1

## Direktinmatning av kanalsiffror

### 1. Välja programlägen

- Välj stegvis önskat programläge med tangenten ▼ eller ▲.
- Tryck en gång tangenten **P/C**.
- I display syns **C** (**C** för kanal) och ett kanaltal mellan **01** och **99**.
- Tar Du emot kabelprogram och vill ställa in en av dessa specialkanaler, trycker Du på nytt **P/C**.
- I display syns **S --** (**S** för specialkanal).

### 2. Mata in kanalsiffror

- Mata tvåsiffrigt in kanaltalet med siffertangenter **1**...**0**, t. ex. för kanal 6 siffrorna **0** och **6**.
- Bilden är automatiskt skarpt inställd.

### 3. Programmera kanaltalet

- Tryck tangenten ◇.
- I display blinkar kanaltalet.
- Medan kanaltalet blinkar, trycker Du tangenten **OK**.
- I display syns **P** (**P** för programläge).

Möjlighet 2

## Med kanalsökningen och fjärrkontrollen

### 1. Välja programlägen

- Välj stegvis önskat programläge med tangenterna ▼ eller ▲.
- Tryck en gång tangenten **P/C**.
- I display syns **C** (**C** för kanal) och ett kanaltal mellan **01** och **99** eller **S01** eller **S41**.
- Starta kanalsökningen med tangenten ▼ eller ▲.
- Sökningen avsöker samtliga TV-kanaler (även specialkanaler). Den stannar då en station hittats.
  Är det inte önskad station, startar Du sökningen på nytt.
- Bilden är automatiskt skarpt inställd.

### 2. Programmera kanaltalet

- Tryck tangenten ◇.
- I display blinkar kanaltalet.
- Medan kanaltalet blinkar, trycker Du tangenten **OK**.
- I display syns **P** (**P** för program)